REMARKS

In the Official Action mailed on **10 January 2008**, the Examiner reviewed claims 1-21. Examiner rejected claims 1-21 under 35 U.S.C. § 102(e) based on Golden et al. (USPN 6,973,517, hereinafter "Golden").

Rejections under 35 U.S.C. § 102(e)

Examiner rejected claims 1-21 under 35 U.S.C. § 102(e) as being anticipated by Golden. Applicant respectfully disagrees. The Golden system is limited to communication using only 6 inter-processor signal lines between central processing units (CPUs) in a symmetrical multiprocessor (SMP) system (see Golden, FIG. 1 and col. 6, lines 43-51). Nothing in Golden discloses separate communication networks, wherein each communication network communicates on a set of separate corresponding unidirectional communication lines.

The Golden system includes a set of processor modules that each comprise two CPUs with connections for 6 inter-processor (IP) network ports (see Golden, FIG. 1 and col. 6, lines 43-51). The processor modules are coupled in a so-called "Manhattan grid" arrangement. The network ports for each processor module are referred to as North (N), South (S), East (E), and West (W). As can be seen in Golden's FIG. 1, the network ports for each processor module are restricted to: (1) a single **input port and a single output port in the WE direction** (i.e., left to right in the figure), (2) a single **input port and a single output port in the EW direction**, and (3) a single **input port and a single output port in the NS direction**. As described in the Related Art section of the instant application, such grid networks can be susceptible to deadlock conditions (see instant application, par. [0005]).

In contrast, embodiments of the present invention include four separate communication networks that move data **unidirectionally along communication**

lines that are used by only the corresponding communication network (see instant application, par. [0028] and FIGs. 1 and 2). For example, FIG. 2 shows how data routed within network 202 moves only in the North direction and the East direction (i.e., never moving West or South). Using such routing, embodiments of the present invention can avoid some of the deadlock conditions that can occur in a network which does not use such routing techniques.

Note that for a two-dimensional arrangement of integrated circuit chips, each chip in embodiments of the present invention has 8 network ports for communication, whereas Golden is limited to 6 network ports per processor module. In addition, in embodiments of the present invention, data can be routed in any combination of steps within a network (see instant application, par. [0037]-[0038]). For example, using network 202, data can be routed in any possible combination of North and East to get to its destination. In contrast, the Golden system is expressly limited to all messages traversing along one axis (EW) and then the other (NS) (see Golden, col. 10, line 65-col. 11, line 2).

In summary, the Golden system is limited to communication using 6 inter-processor signal lines between central processing units (CPUs) in a symmetrical multiprocessor (SMP) system. Nothing in Golden discloses separate communication networks, wherein each communication network communicates on a set of separate corresponding unidirectional communication lines.

Applicant has amended independent claims 1, 8, and 15 to clarify that embodiments of the present invention include a plurality of separate communication networks, wherein each communication network communicates on a set of separate corresponding unidirectional communication lines. These amendments are supported by FIGs. 1 and 2 and par. [0028] of the instant application. Applicant has also cancelled claims 4, 11, and 18 without prejudice. No new matter has been added.

Hence, Applicant respectfully submits that independent claims 1, 8, and 15 as presently amended are in condition for allowance. Applicant also submits that the dependent claims that depend upon each independent claim are for the same reasons in condition for allowance and for reasons of the unique combinations recited in such claims.

CONCLUSION

It is submitted that the application is presently in form for allowance. Such action is respectfully requested.

Respectfully submitted,

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Date: 21 February 2008

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